

FEDERAL SECURITY AGENCY PUBLIC HEALTH SERVICE

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Dr. Joshua Lederberg Dept. of Genetics University of Wisconsin College of Agriculture Madison 6, Wisconsin

Dear Josh,

Thanks for sending me the copy of Norm's note, which I presume you don't want returned. In connection with some other correspondence Norm recently told me that he had sent a copy of the note to Francis Ryan. As a result I sent Norm the enclosed letter, which I guess explains my position pretty clearly. I do hope Norm doesn't send the note to MB at least in its present form since I think it's far too late to withdraw the term prototroph.

As to autotroph, it's my impression that the original definition implied the ability to utilize CO₂ as a sole source of carbon. The Cold Spring Harbor group in volume 11, however, suggests a redefinition wich would give the term a more generalized meaning, so that a could call an arganism autotrophic with respect to carbon, or with respect to any single compound or group of compounds. Since we now know that organisms can be exacting (and heterotrophic) with respect to one or another trace factor and yet autotrophic with respect to the bulk of their carbon, it seems to me that this redefinition is a useful one. As you see from my attitude toward thes word as well as toward prototroph and syntrophism, I have no objection to having the definition of a word refined or otherwise modified as our knowledge increases.

Sincerely.

Bernard D. Davis

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I've been interested enough to have Francis read your letter to me. I can't agree with you that it would be unfortunate to have the word transdiction mean one thing in biology and another thing in physics including its direct application in biology. The number of etymological roots available to us is so limited that such diverse applications of the same word seem inevitable. I cannot see, for example, that any confusion arises from the fact that the word interference means one thing to a student of optics, another to a student of radio, another to a student of chemotherapy, and still another to a student of viruses. The only way I could see to avoid this overlapping would be the introduction of a lorarge number of arbitrary new stems whose unfamiliarity might offer more of an obstacle to a ready understanding than the present practice offers.

I do agree with you, however, that it is unfortunate to have a word such as prototroph defined in two different ways in the same field, and I think you are warranted in your rebuke to the parents. As a practical matter, however, I would not like to see any effort to withdraw a definition which has already found such a wide use. The key to this problem seems to me to arise from the fact that so many microbiologists have accepted the new definition without being aware of the old. I would therefore feel that the old definition, despite its inclusion in certain texts can best be considered obsolete, especially since the old term was not used by the group who proposed a comprehensive nomenclature at the Cold Spring Harbor Symposium, ref. Vol. 11, p. 302.

I'm probably particularly interested in preserving prototroph since I'm just sharing authorship of a note with Ellis Englesberg in which we protest the tendency to use prototrophic to describe mutations toward decreased growth factor requirements. We propose that the Lederberg-Ryan definiton be retained, and that the word meiotrophic be used to denote mutations toward decreased requirements. I don't have a copy of the version Englesberg is sending on but if You're interested I'm sure you can get one from him at Berkeley.